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June 14, 2004

US Patent and Trademark Office
US Department of Commerce
Appn. Number: 10/007,489
Appn. Filed: 12/05/2001
Applicant: Elizabeth Gay Frayne

Title: "Microbial Production of Phosphorothioate Substituted DNA, RNA, and Oligo Mixtures"

Examiner: Devesh Khare, PhD, JD
Art Unit: 1623

RE: Office Action Summary issued May. 24th for Application No. 10/007,489

Dear Sir,

I chose to elect claims 1-5 drawn to the use of thiophosphate as a substitute for normal phosphate in microbial cultures to create modified nucleic acids in vivo. I would like to modify the process claim six to make it dependent on the product claims of 1-5.

Please consider the following amended claim for claim six:

6. The method of claim one used to generate phosphorothioate oligos by

- 1) isolating recombinant phage, plasmid, or other nucleic acids from micro-organisms cultured in the presence of thiophosphate
- 2) purifying the sequences corresponding to the recombinant nucleic acid insert or desired nucleic acid segment
- 3) fragmenting the nucleic acid insert or segment with DNase, S1 nuclease, or other means which creates an overlapping set of oligo mixtures spanning the entire length of the segment.

An intent of my patent was to show the utility of using bacteria to generate phosphorothioate DNA oligos. I hope this modification shows the dependency of claim six on claim one. If claims 1-5 are allowed please rejoin the process claim six.

Respectfully submitted,

A handwritten signature in cursive script that reads "Elizabeth Frayne". The signature is written in black ink and is positioned below the "Respectfully submitted," text.

Elizabeth Frayne
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